



UNITED STATES PATENT AND TRADEMARK OFFICE

AND  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,719	06/29/2001	Chiyoaki Iijima	9319S-000199	8620

7590                    07/09/2003  
Harness Dickey & Pierce  
PO Box 828  
Blomfield Hills, MI 48303

EXAMINER

STEVENSON, ANDRE C

ART UNIT	PAPER NUMBER
	2812

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.	Applicant(s)	
09/869,719	IIJIMA, CHIYOAKI	
Examiner	Art Unit	
Andre' C. Stevenson	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

1) Responsive to communication(s) filed on \_\_\_\_.  
2a) This action is **FINAL**.      2b) This action is non-final.  
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

4) Claim(s) \_\_\_\_ is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
5) Claim(s) \_\_\_\_ is/are allowed.  
6) Claim(s) 16,20,22,26,28,30,32 and 36 is/are rejected.  
7) Claim(s) 24 is/are objected to.  
8) Claims \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

9) The specification is objected to by the Examiner.  
10) The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.  
11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved.  
12) The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
a) All b) Some \* c) None of the CERTIFIED copies of the priority documents have been:  
1.  received.  
2.  received in Application No. (Series Code / Serial Number) \_\_\_\_.  
3.  received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.  
14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

### Attachment(s)

15) Notice of References Cited (PTO-892)  
16) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
17) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.

18) Interview Summary (PTO-413) Paper No(s). \_\_\_\_.  
19) Notice of Informal Patent Application (PTO-152)  
20) Other: \_\_\_\_.

## **DETAILED ACTION**

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09869719, filed on June 29, 2001.

Claims 1 through 3, 4 through 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 34, & 35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8 (05/19/03).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16, 20, 22, 26, 28, 30, 32 & 36, are rejected under 35 U.S.C. 103(a) as being unpatentable over Motomura et al (U.S. Pat. No.6456347 B1), and further in view of Itoh et al (U.S. Pat. No.5841496).

Motomura et al (U.S. Pat. No.6456347 B1), **Claim #16 & 36**, a transflective liquid crystal device comprising: a first transparent substrate; a second transparent substrate opposed to the first substrate; a liquid crystal held between the first and second substrates; a light source provided on a side of the first substrate, which is opposite to the liquid crystal side thereof; a transflective electrode layer arranged on the first substrate opposite to the second substrate; a polarizer provided on a side of the second substrate, which is opposite to a first substrate side thereof; a first retardation plate arranged between the polarizer and the second substrate; and a second retardation plate arranged between the polarizer and the first retardation plate (**column 4, lines 52 through 67, column 7 lines 61 through 67, column 8 lines 1 through 5**); wherein a twist angle of the liquid crystal is 230 to 260 degrees; a minimum and maximum  $\Delta n d$  (product of optical anisotropy  $\Delta n$  and thickness  $d$ ) of the liquid crystal are 0.85  $\mu m$  or less and 0.70  $\mu m$  or more, respectively;  $\Delta n d$  of the first retardation plate is  $150 \pm 50$  nm;  $\Delta n d$  of the second retardation plate is  $610 \pm 60$  nm; an angle  $\theta_1$  formed by a transmission axis or absorption axis of the polarizer and an optical axis of the second retardation plate is 10 to 35 degrees; and an angle  $\theta_1$  formed by an optical axis of the first retardation plate and the optical axis of the second retardation plate is 30 to 60 degrees , (**column 8, lines 6 through 16**).

Motomura et al (U.S. Pat. No.6456347 B1) discloses the claimed invention except for a twist angle of the liquid crystal is 230 to 260 degrees; a minimum and

maximum  $\Delta n d$  (product of optical anisotropy  $\Delta n$  and thickness  $d$ ) of the liquid crystal are 0.85  $\mu m$  or less and 0.70  $\mu m$  or more, respectively;  $\Delta n d$  of the first retardation plate is  $150 \pm 50$  nm; And of the second retardation plate is  $610 \pm 60$  nm. Itoh et al (U.S. Pat. No.5841496) teaches that it is known to obtaining an optical characteristic trace of the combination of said first layer.

Furthermore, **Claim #16**, a twist angle of the liquid crystal is 230 to 260 degrees; a minimum and maximum  $\Delta n d$  (product of optical anisotropy  $\Delta n$  and thickness  $d$ ) of the liquid crystal are 0.85  $\mu m$  or less and 0.70  $\mu m$  or more, respectively;  $\Delta n d$  of the first retardation plate is  $150 \pm 50$  nm; And of the second retardation plate is  $610 \pm 60$  nm, is taught by Itoh et al (U.S. Pat. No.5841496) (column 6, lines 35 through 42, column 34 lines 39 through 46, column 37 lines 14 through 19).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a twist angle of the liquid crystal is 230 to 260 degrees; a minimum and maximum  $\Delta n d$  (product of optical anisotropy  $\Delta n$  and thickness  $d$ ) of the liquid crystal are 0.85  $\mu m$  or less and 0.70  $\mu m$  or more, respectively;  $\Delta n d$  of the first retardation plate is  $150 \pm 50$  nm; And of the second retardation plate is  $610 \pm 60$  nm as taught by Itoh et al (U.S. Pat. No.5841496), since Itoh et al (U.S. Pat. No.5841496) states at column 6, lines 54 through 67, column 6, lines 35 through 42, column 34 lines 39 through 46, column 37 lines 14 through 19 that such a modification would allow the transmission spectrum in the normal line direction of the substrate plane.

With respect to **Claim #20**, a transflective liquid crystal device according to Claim 16, further comprising a color filter provided on the liquid crystal side of the first or second substrate, is taught by Motomura et al (U.S. Pat. No.6456347 B1) (Column 3, lines 61 through 67, column 4 lines 1 through 6, lines 38 through 51).

Furthermore, **Claim #22**, a method wherein measuring combination of layer and plurality of features using scatterometry tool, determining a thickness of a second layer, depositing second layer of material, is taught by Motomura et al (U.S. Pat. No.6456347 B1) (column 2, lines 4 through 27).

Considering now **Claim #26**, a transflective liquid crystal device according to Claim 16, wherein the transflective electrode layer has a laminated structure comprising a transflective film, a transparent insulating film arranged on the transflective film, and a transparent electrode arranged on the insulating film, is taught by Motomura et al (U.S. Pat. No.6456347 B1) (column 3, lines 49 through 58).

With respect to **Claim #28**, a transflective liquid crystal device according to Claim 16, wherein a passive matrix driving system in a normally black mode is used, is taught by Motomura et al (U.S. Pat. No.6456347 B1) (Fig. 3, Column 3, lines 61 through 67, Column 4, lines 1 through 8).

Furthermore, **Claim #30**, a transflective liquid crystal device according to Claim 16, further comprising: another polarizer arranged between the first substrate and the light source; and another retardation plate arranged between the first substrate and the polarizer, is taught by Motomura et al (U.S. Pat. No.6456347 B1) (Abstract Fig. 7 & 3, Column 6, lines 50 through 67, Column 7, lines 1 through 11).

### Objected Claims

Claim #24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### Claim #24

- ✓ The silt has a width of 3 to 20  $\mu\text{m}$ .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' Stevenson whose telephone number is (703) 308 6227. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308 3325. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 7724.

Application/Control Number: 09/869,719

Art Unit: 2812

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Andre' Stevenson

Art Unit 2812

06/25/03



John F. Niebling  
Supervisory Patent Examiner  
Technology Center 2800